The Role of Library and Information Services in Agricultural University in India: A Study

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Abstract:

Agricultural University libraries plays a significant role in the transformation of agricultural education to assist sustainable development in India. Agriculture in India has been given eminence among the sectors of the economy. Agricultural institutions were established to accommodate for agricultural education research and extension lead of rural agriculture. Knowledge about the users and their demands is indispensable to make library and information services operative and user oriented. Agricultural University libraries offers information services to farmers, agricultural business organizations, students, livestock producers, research workers subject specialist teachers, this is in expectancy to encounter the challenge of man, food and deprivation and to make for a sustainable development. The problems limiting their sustainability such as poor funding, resistance to use of modern information technology, lack of formal training, government neglect, and poor bibliographic control were explored and recommendations offered, like introduction of short-term courses to educate farmers and the inclusion of modern information technology in the curriculum on database searches, information retrieval engines, retrieval software.

Keywords*: Agriculture, Transformation, Farmer, Economy, Government, Education, Education research.*

Introduction:

Agriculture has been the first and the most ancient occupation of humanity. Agriculture began probably 6,000 to 10,000 years ago somewhere in the area between the Nile in Egypt and the valley of the Indus River, Western India. Agriculture provides the basic wherewithal of existence in the form of food, clothing, work, to the people and income for those who work. It is true that man can live without manufacturing industries, but not without agriculture; one can dispense with industrial goods, but not with food. Therefore, to great many people on the globe farming is still a way of life. Also, much of the material abundance that characterized developed countries is due to the past and current contributions of agriculture. Hence, the prosperity of the country and the welfare of the vast majority of the population are intertwined with the efficiency harnessing of agriculture. [23]

Agriculture has been a part of human life for many thousands of years; the need for agricultural, information is probably almost all old. Agriculture is the mainstay of India's economy. It supports directly and indirectly 60% of the population of India for their subsistence and provides raw materials for major industries like cotton, textile and sugar as well as several medium and small scale industries. During pre-independence period, agrarian economy in India was almost in shambles, when the whole country was in the hands of the native kings, they were more interested in wars with one another to expand their territory, than in the economic development of the people they ruled. Later the British who established their political supremacy in India, treated India to be a very good source of raw material to fed their mercantile interests and they exploited this position ruthlessly for their industrial growth.[24]

With the alarming rate of growth in population, results of agricultural research are being put into widespread use for maximizing the production. But the agricultural production has always been hazardous subject to the vagaries of weather and climate. Famines caused by floods, droughts, diseases pests and other natural disasters forced the agricultural research to evolve conditions to face the above calamities. This is the overall picture of the agriculture today.

An agricultural university library is the one, which primarily renders service to the specialists, researchers, teachers and students in agriculture and allied subjects and farmers. The indo-American Agricultural Survey and study Team, in its final report on Indian council of agricultural research institutes and agricultural university libraries (1969), recommended that every agricultural library is a special library, which must be oriented to the service of agriculture. A special library is a plarmed collection of books, periodicals, reports and other records to meet the study and research needs of a specific clientele. The functioning of special libraries is motivated not merely responding to requests, but answering them before they are asked. This again, is closely linked to the idea of library and information services, where anticipation is considered a key to these services.

Rapid accumulation and dissemination of information will be the important feature of 21st century. Agricultural graduates cannot afford to lag behind in this technology. Therefore, a well-equipped library is must to every agricultural university since it is the nerve centres for all educational and research programmes. The agricultural universities have recognized the need for proper library and information services due to:

i) Emphasis on research; and

ii) The use of different methods of teaching and evaluation, there emphasis is on seminars, tutorials, assignments, periodical assessment etc., and therefore teaching in such a system of this nature has to be library-oriented; otherwise, it would be almost impossible for an educational and research scholar to keep abreast of developments in the educational and research pursuits. At present all the 29 State Agricultural Universities and their Constituent Colleges and the Research Institutes have libraries of their own.

Agricultural university libraries have now become highly complex institutions, with a multiplicity of functions catering to a wide clientele having divergent interests. They are better organized and managed than their counterparts in the general traditional universities. Majority of the agricultural universities is multi-campus organizations with a number of constituent colleges and a few affiliated colleges. All 29 state agricultural universities maintain central university libraries at their main campuses and the off-campus constituent colleges also have the libraries of their own with considerable information sources and adequate facilities. The library and information service rendered in these libraries are however, confined to the agricultural scientists, researchers and students.

Current Status

In early 1991, for strengthening the information management culture using modern information technology within the Indian National Agricultural Research System, the ICAR initiated a project called Agricultural Research Information System (ARIS). [25] For implementation of ARIS, funds were provided by Government of India and the World Bank. The specific objectives of ARIS are:

- To bring agricultural information closer to managers and scientists.
- To improve the capacity of research organizations.
- To organize, store, and retrieve information relevant to their mandates.
- To develop regular procedures and mechanism for these organizations to share information.
- To improve the capacity of these organizations to plan , monitor and evaluate their research programs.

Library plays an important role in all academic and research activities. It is therefore, absolutely essential that library facility in all agri-institutions be well developed. Agricultural Research Library Information System (ARLlS) is one of the modules of ARIS for Library Improvement and Networking (LIN) and has been developed under Information System Development (ISO) scheme. ARLIS envisages that the library services should be improved by means of modern network facilities, using computers and satellite communications technology, so that the resources at one place can be utilized at multiple places under conditions of scarcity of funds. Thus, information generated at national and international levels can be made available online to the agricultural scientists and the gap of information/literature be identified and filled up.

Objectives

To know the role of agricultural libraries in the networked digital era and to study the support of ICAR for strengthening and development of agricultural libraries. Also to know the major constrains for role of agricultural libraries and librarians professionals to work smoothly in the networked digital environment.

2. RELATED WORK

The Literature review of agriculture information and related fields has proliferated as nations throughout the world have become engaged in major agricultural libraries activities and research. Today's expanding Information Technology has an increasing impact on the library and information services and dissemination of agricultural information. As in

all disciplines, key documents have helped to shape and define the boundaries of discussion. These documents, although static in nature, form a foundation, which allows the discipline to grow in the future. The review of literature in this chapter has discussed major issues and trends in library and information services and agricultural libraries and in doing so, have related upon the diverse and expanding literature on agricultural information.

The literature search is an attempt to identify, locate and synthesize completed research projects, articles, books and other materials about the specific problems of a topic. This study as stated is about evaluation of library and information services offered by the agricultural universities in South India. As a part of background study, certain books and articles about library and information services in agricultural universities utility of information services, evaluative of such services etc, were studied. There were several articles on information services use of library and its services and ultimately the evaluative of information services etc. Apart from that several books were also consulted. Selected such items were reviewed and broad groups identified in this context are given below.

2.1   Historical Perspective of Agricultural Education and Libraries

A.T. Francis As digital information resources available online are increasing at an exponential rate, several practices have evolved for the economic and effective delivery of such information to the end users. In this context, consortia-based information services have gathered momentum world over during the last few years. However, there are several library consortia in India, UGC Infonet is mainly meant for universities controlled by UGC and CeRA is meant for agricultural universities. This paper discusses utilization of consortia-based digital information resources by the post graduate and doctoral students of the Kerala Agricultural University, Thrissur. Results show that cent percent of the students were familiar with the use of digital information resources available online and 87.14 per cent of them used CeRA. Eighty two per cent students were acquainted with CeRA and learned the required skills for the access and use of digital information resources through curriculum-based courses like 'library and information services', 'research methodology', etc. The students in general would like to strengthen the CeRA services by adding more resources and facilities.[1]

Ajay Babulalji Khatri and Dr. Satyanarayan R. Baheti Tremendous growth & diversification of knowledge have emerged with multidisciplinary subjects. Information has been identified as one of the vital resources needed for the success in almost every major human endeavor. Growth of website is increasing very fast. So it is necessary to study about reliability of them. The success of website hinges on how much users consider the information credible on the website to which he/she was accessing. "Information credibility has been seen as one of several 'key information problem. They aimed to study and analyze the various aspects of the credibility of Websites Deemed universities of Maharashtra. Deemed universities from all over the Maharashtra are considered for the study. The analysis of the data represents the extent and level of credibility possessed by these Universities.[2]

2.2   User Needs and Survey in Library and Information Services

S P Jain and Sunil Goria Attempts to know the present conditions of agricultural libraries in India. This study is based on the analysis of professional staff, users, collection, budget, computerization (hardware and software) and mechanized information services existing in the agricultural libraries. A comparative data in tabular form of 19 State Agriculture University (SAU) libraries out of 30 and 37 ICAR institute libraries out of 50 are drawn for showing the strengths and weaknesses of agricultural libraries. Suggests the establishment of a National Agricultural Library by considering all the factors affecting the development of agriculture. This data will be useful for planning and policy making of agricultural libraries.[3]

Venkatesha and Sarasvath illustrated the present status of library automation in the selected university libraries in Karnataka and Tamil Nadu. The findings of a survey conducted in 2017 form the basis of the discussions and questionnaire for the librarian. The status of library automation with all modules is described, and the survey conducted is explained in terms of methodology and findings. From the university libraries of Karnataka are using open source library software and the university libraries of Tamil Nadu are using commercial library automation software. The study finds that from the both state university libraries are providing circulation and Online Public Access Catalogue services in their best. Madurai Kamaraj University Library in Tamil Nadu and Mysore University Library in Karnataka university libraries are giving best services in overall services. Annamalai University Library in Tamil Nadu and Bangalore University Library in Karnataka libraries are needed to improve their all services. Overall, all sample university libraries are need implement all modules of housekeeping activities to provide best automation services to their users.[4]

2.3   Sources of Agricultural Information

Sohanlal and Premsingh trace the history and development of agricultural universities in India and discuss the importance of the libraries of these institutions in acquiring and communicating information to scientists. Further outlines the work and services offered, by the library and its sub divisions such as technical services; serials control; readers' services; research, planning and development; information analysis and consolidation; college and departmental libraries; and administration and accounts.[5]

Kannappanavar and Chidananda discusses that the agricultural university libraries have now been accepted as the centres of excellence for Teaching, Training and Research in the fields of agricultural sciences and other allied areas, including social sciences and humanities.[6]

Khot and Patil sugg ested that the study is mainly concerned with information search activities of research scholars their information needs, behavior and use pattern. It also helps to find out the extent to which the existing library has organized and disseminated information to suit the needs of the users.[7]

2.4   Growth of Agricultural Libraries and CollectionDevelopment

Currie this study, done at the Albert Mann Library, Cornell University, from September 1984 to March 1985, examined various document delivery systems in relation to time of delivery and handling cost. The two objectives of this study were "to test whether commercial document services can provide documents more quickly and/or more inexpensively than traditional library sources.[8]

Conney et al. characterize a good literature service as one, which maintains a high level of quality and a wide-ranging literature base and makes this literature accessible to users in a cost-effective and timely manner. The article includes a brief discussion on some successful literature services.[9]

Griffiths and Kinney the currently available sources of agricultural information are reviewed with an emphasis on U.S. Government services. Coverage includes databases, current awareness and document delivery services, and reference and other information services.[10]

Singh discusses the state of agriculture libraries in India and evaluates agricultural libraries on the basis of parameters such as need for Agricultural Library Association, automation and networking, Agriculture Documentation Centre, professional development of library staff, professional status etc.[11]

2.5   Agricultural Library Reference Services

Bhawana Tripathi et al The purpose of this paper is to assess use and impact of e-resources among research scholars of Agriculture and Technology Universities in Uttar Pradesh. A survey has been conducted and appropriate tools and technology were applied for the collection and interpretation of the data. The study highlights the purpose of using e-resources, methods used for searching and browsing eresources, satisfaction level and problems among research scholars. On the basis of the findings, suggestions have been put forward for making the optimum use of e-resources and provide effective and efficient library services to its users.[12]

Lambodara Parabhoi and Ramani Ranjan Sahu The present study based on bibliometric analysis of research publication of Himachal Pradesh University (HPU) from 1972-2015 using Scopus database as a data source. The publication data was analyzed to find out the type of publication, authorship trends, collaboration pattern, most prolificauthor, and journals. The result shows that journal is the most preferred form of publication. The year wise publication trends were upward where there is a steady increase in publication every year. The inter-university collaboration was increased over the year. The main research area was science which includes a major share of Physics and Astronomy with total 758 publication (25.04%). The most preferred journal for publication was "Journal of Applied Polymer Science" and the most prolific author was "Chauhan G.S."[13]

2.6   Agricultural Library Issues for Developing Countries

Devendra Kumar et al. This study examines the expectations of faculty members and research scholars towards library resources and services at Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut, Uttar Pradesh, India. It analyzes the various aspects of library collection usage, frequency and purposes of library visits, and user satisfaction of library services. It also relates major problems that hinder faculty members and research scholars from using the library.[14]

Sarwesh Pareek and Dinesh K Gupta Services are the most growing and the fast changing segment of academic libraries nowadays. Survey of web sites of 52 academic, libraries, i.e. government, deemed self-financed universities and research centres libraries of Rajasthan based on 133-item checklist. The purpose of this paper is to investigate library web sites in Rajasthan, to analyse their content and navigational strengths and weaknesses and to give recommendations for developing better web sites and quality assessment studies.[15]

Lalitha Aswath and Sangita Gupta Evolution of information and knowledge has impacted all organizations, including academic libraries. Knowledge management has drawn the attention of LIS professionals for the past

decade. Initially the knowledge management was a feature of the corporate sector; later it started a role in academic libraries too. They discusses the various components of knowledge management process, identifies Intranet as one of the tools of KM, its contents, resources required and advantages as a tool for KM. The study explores the feasibility of services offered through Intranet services in University libraries in the state of Karnataka and Jammu& Kashmir.[16]

2.7   Agricultural Library Management

Anil Kumar Siwach CCS Haryana Agricultural University (CCSHAU) is among the top ten agricultural universities of India according to ICAR ranking 2016-17. The present study has been undertaken to find out the publication trends in this university during 2001-2015. The study mainly focus on year-wise research output, major subject categories, national and international collaborations, top journals for publications, most prolific authors, citations pattern and highly cited papers of CCSHAU. The results indicate that among the top ten agricultural universities of India, CCSHAU stands at fourth position in terms of publications and sixth position in terms of citations. It has collaborated with many institutions at national and international level in its research publications.[17]

Bhanu Partap The present study is based on the bibliometric analysis of 161 articles published in 09 volumes (24-32) of 18 issues of Indian Journal of Agricultural Library and Information Services (IJALIS) for the period of nine years (2008-2016). This article brings out the results of a bibliometric study carried on all the issues of the source journal (IJALIS) on various parameters such as authorship pattern, gender wise distribution of papers, length of papers, average number of references, volume & issue wise average papers, geographical distribution of articles, range of reference cited and most prolific authors of the journal. The study finds that on an average, 18 research articles were published per volume in a year during the period of study, whereas, maximum number (39.75%) of articles was two authored followed by single authored (32.36%). Karnataka begged the top rank among all the 20 contributed states of India from where maximum number of contribution in the journal.[18]

Neena Singh Information Literacy is receiving increasing attention among Indian professional practice with emergence of electronic resources and digitization activities in libraries. As early as 1970's User instruction existed in Indian agricultural universities and were adapted from US land Grant pattern universities. Formally popularly known as User education, most universities had an embedded curriculum approach to enhance students information and research skills . This study investigates and analyses what agricultural universities are offering to enhance their students library or information skills. In addition, identifies basic contents in terms of latest developments, library skills and research skills, approach to uniformity, concept like subject librarian.Findings reveal that out of 34 universities surveyed , significantly high more than 90.0 % offer credit bearing information literacy through curriculum approach by different names, to mention a few like Research Methodology and Library Use, Technical writing and User Education, Storage and Retrieval of Scientific Information, Agricultural Information system etc. Most state universities provide such course to Graduate students and are yet to introduce structured courses for under graduates. In the year 2010 the Indian Council of Agricultural Research formulated Common Academic Regulations (CAR) and introduced a mandatory IL course entitled Library and Information Services coded PGS-501 for Post Graduate Studies. Some 20% state universities have now introduced IL as essential part of curricula after CAR. The study also points out the need for innovative perspective in mode of delivering educational content engaging greater online or e- learning experiences.[19]

2.8   Information Technology and Networks in Agricultural Libraries

Suniti Bala et al The objective of this study is to explore the use of open access resources (OARs) by researchers of Punjab Agricultural University, Ludhiana. A structured questionnaire was used to collect data from the researchers. The findings of the study shows that research articles, theses and e-books are extensively used open access resources for course and research work. Training and online tutorials can be helpful in overcoming the problems faced by researchers in using OARs.[20]

Neena Singh Twenty-six of the agricultural universities in India teach user education and information literacy (IL). This article evaluates these courses and investigates if and how the course curriculum blends research and technical writing skills effectively. Unfortunately, the courses lack uniformity in teaching IL and technical writing skills. Since the universities are under state government control, they are unable to provide uniform curricula throughout India. There is also a need for a credited course on IL, integrating ICT and computer skills, and another course for research and technical writing.[21]

Kamlesh Mohan discusses the colonial state's aims and objectives of establishing the Punjab Agricultural College and Research Institute, Lyallpur (1906-1947). It argues that the project of diffusion of scientific knowledge and technological change in agriculture, guided by imperialist interests, was half-hearted and aimed mainly to fulfil the colonial goals, e.g. political stability, military recruitment, financial profit and government solvency. In the course

of transfer and diffusion of knowledge, the differentiated identities of colonial and Indian experts/colleagues were produced and strengthened.[22]

3. AGRICULTURAL LIBRARY IN INDIA

Indian Council of Agricultural Research is a big network for agricultural education, research and extension in agriculture and allied subjects. In this network under ICAR umbrella more than two hundred libraries are working i.e. 4 Deemed University Library as National library, 3 Central University Library, 64 State Agricultural, Horticulture and Veterinary University Library, 65 central Institute Library,13 Project Directorate Library, 14 National Research Centre Library and 6 Bureau Library are smoothly working in different places of India. More than two hundred college libraries in field of agriculture, horticulture, agricultural engineering, Veterinary and animal husbandry, fisheries are providing library services are also in country. In which forty three libraries are working only Chhattisgarh. [26]

3.1 Services of Agricultural Libraries
1. Loan Privilege: Books, References, Periodicals, Thesis, reports and reading materials
2. Documentation Services Abstracting Services, Indexing Services, Bibliography Services, Translation Services, Reprint Photocopy services etc.,
   Current Awareness Services through Email,
   Selective Dissemination Information Services
3. Internet Browsing:
   a) Web Browsing for study Purpose
   b) For Research
   c) For Recreation
4. E- Services
   a) E- Journals Through CeRA
   b) Through Open Access sites
   c) Though subscribed resources e-Books, e-Resources e-Journals, online journals   Database Access, Elsevier ,CABI etc
5. Web OPAC: Networked OPAC Show Everywhere
6. Library services 24X7 and available on Mobile App, email alert, new arrivals etc.
7. Circulation check anywhere, RFID,
8. E-Services through CeRA
9. Krishikosh Repository
10. In-house Local Repository
11. Provide E- Course Krishi Siksha MOOC
12. Video Conferencing, Wi-Fi facility
13. LIB PGS Course
14. Resource Sharing, Data sharing, Information sharing through network
15. Internet Based Library Information Services, Collection send on workstation
16. Remote Access E Zproxy Remote (OCLC)Resource available in remote places
17. Guidance and Counseling, Awareness and Orientation/ training Program
18. Competitive Corner

3.2   Role of Agricultural Libraries
Agricultural libraries are playing an important role in education, research and extension activities. [27]
1. The main role of agricultural library is to increases uses of agricultural resources in agriculture teaching, research and extension services.
2. Support to improve the quality of education, research and extension services of the agricultural institutions.
3. To provide Current Awareness Service (CAS) and Selective Dissemination of Information (SDI) services in hard and soft copy form to   agricultural scientists, research worker, professor, students, farmers and who involved in agriculture sector.

4. To increase the cooperation with other agricultural institutions to use the information resources.
5. Agricultural library should organize awareness programme, exhibition, display of latest agricultural research, varieties related publications for farmers in rural areas.

3.3 Objective and Methodology of the Study

In order to assess the effectiveness and relevance of these academic and short term programmes, a study was conducted among the teachers, students and library staff of KAU. It was also intended to review the involvement of the library and information science professionals in academic programmes. The utility of such programmes to re-design the operations of the library and information system for the modern environment is also examined. The study was mainly based on personal interview, discussions, observing the library users and staff and their methods and procedures in information retrieval, etc. Data was also collected from participants of the short-term courses on Information Retrieval, conducted by the university during the last three years. Records of library services and operations were also compared to validate the facts received.

3.4 Major Findings

- Seventy per cent of the total respondents revealed that these programmes had helped to increase the efficiency in searching the databases. Eighty five per cent of the students expressed that the formal academic programmes as part of course curriculum are very helpful to locate the documents from the libraries and retrieve information from digital databases.
- All library staff stressed the need for formal as well as short term courses for all types of users. They felt that such courses are helpful for the users to raise the reference queries clearly. This can also provide a platform to establish close relationship with the users. 5. Sixty five per cent of the library staff opined that these courses helped to update their technical knowledge and service efficiency. But, fifteen per cent has pointed out the problem of increase in the work load for preparing for classes and study materials, organizing work for short term courses, etc.
- Detailed study of the topics such as ICTs, content development, digital libraries, knowledge management, online journals, digital document delivery, etc. should be included in the courses designed for the users and staff. More stress should be given for practical training. It was also observed that a frequent revision is needed in the topics included in such courses.
- Ninety per cent of the users have some knowledge on modern ICTs and digital information resources. But, all of them are admitted that this knowledge is highly inadequate to locate desired information from CD-ROM databases or Internet. It was also disclosed by many users that lot of time is being wasted by the inefficient methods of information retrieval.
- All teacher as well as student users stressed the need for regular library instruction / user orientation courses and such programmes should be more oriented towards the application of modern ICTs with topics such as database search, information retrieval, search engines, retrieval softwares, formulation of search strategies, sorting, printing and downloading of records, etc.
- There is a normal tendency by the users and staff to resist the changes in the beginning and when convinced and accustomed by sufficient induction, orientation and training programmes, all are becoming happy to adapt to the modern technologies.

4. CONCLUSION

It is precise apparent from the discussion that agricultural libraries are lagging behind predominantly in providing explicit information to the users. Facilities provided by library are average and access to the newest journals and other e-databases use by Information Technologies are unexpected because of inadequacy of inadequate support. The study publicized that there is a strong relationship among the user orientation and use of information resources, predominantly the digital resources. It is also appreciated that several of the difficulties fashioned by the transition of information documents from print to electronic medium could be healthier managed with the help of apposite user education courses with stress on ICTs. To resolve problem were confronted limited books, e-databases, journals, latest resources etc. Infrastructure amenities are ordinary in some of the libraries. Specific of the Libraries have not digital library. This condition has to be enhanced and libraries should make efforts to fascinate them. The recommendation is made by the users are effective and this is the right time to take those recommendations earnestly.

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